

AF [signature]

PTO/SB/21 (08-03)

Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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| <b>TRANSMITTAL FORM</b><br><br>(to be used for all correspondence after initial filing) | Application Number   | 10/664,513                             |
|   | Filing Date          | September 16, 2003                     |
|   | First Named Inventor | Marc K. HELLERSTEIN                    |
|   | Art Unit             | 1655                                   |
|   | Examiner Name        | P. Martin                              |
| Total Number of Pages in This Submission  | 6+ 5 refs            | Attorney Docket Number<br>416272003700 |

| ENCLOSURES (Check all that apply)  |  |  |
|--|--|--|
| <input checked="" type="checkbox"/> Fee Transmittal Form, in duplicate for fee processing (2 pages)80<br><br><input type="checkbox"/> Fee Attached<br><br><input type="checkbox"/> Amendment/Reply<br><br><input type="checkbox"/> After Final<br><br><input type="checkbox"/> Affidavits/declaration(s)<br><br><input type="checkbox"/> Extension of Time Request<br><br><input type="checkbox"/> Express Abandonment Request<br><br><input checked="" type="checkbox"/> Information Disclosure Statement w/ Form PTO/SB/08a/b (5 pages)<br><br><input type="checkbox"/> Certified Copy of Priority Document(s)<br><br><input type="checkbox"/> Response to Missing Parts/ Incomplete Application<br><br><input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53 | <input type="checkbox"/> Drawing(s)<br><br><input type="checkbox"/> Licensing-related Papers<br><br><input type="checkbox"/> Petition<br><br><input type="checkbox"/> Petition to Convert to a Provisional Application<br><br><input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address<br><br><input type="checkbox"/> Terminal Disclaimer<br><br><input type="checkbox"/> Request for Refund<br><br><input type="checkbox"/> CD, Number of CD(s) _____ | <input type="checkbox"/> After Allowance Communication to Group<br><br><input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences<br><br><input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief)<br><br><input type="checkbox"/> Proprietary Information<br><br><input type="checkbox"/> Status Letter<br><br><input checked="" type="checkbox"/> Other Enclosure(s) (please identify below):<br><br>1. One copy of 5 Cited References<br><br>2. Return Receipt Postcard |
| Remarks  |  |  |

| SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT |  |
|--|--|
| Firm or Individual name                    | MORRISON & FOERSTER LLP (Customer No. 20872)<br>Michael R. Ward - 38,651 |
| Signature                                  |  |
| Date                                       | June 9, 2006   |

|  |                             |
|--|-----------------------------|
| I hereby certify that this correspondence is being deposited with the U.S. Postal Service with sufficient postage as Express Mail Airbill No. EV 809052024 US, in an envelope addressed to: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date shown below. |                             |
| Dated: June 9, 2006  | Signature:  (Valerie Cohen) |



PTO/SB/17 (12-04)

Approved for use through 7/31/2006. OMB 0651-0032

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|  |  |                          |                     |
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| <b>Effective on 12/08/2004.</b><br>Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818). |  | <b>Complete if Known</b> |                     |
| <b>FEE TRANSMITTAL</b><br><b>For FY 2005</b>   |  | Application Number       | 10/664,513          |
|  |  | Filing Date              | September 16, 2003  |
|  |  | First Named Inventor     | Marc K. HELLERSTEIN |
|  |  | Examiner Name            | P. Martin           |
|  |  | Art Unit                 | 1655                |
| <input checked="" type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27                  |  | Attorney Docket No.      | 416272003700        |
| <b>TOTAL AMOUNT OF PAYMENT</b>   |  | <b>(\$)</b>              | <b>180.00</b>       |

|   |   |
|---|---|
| <b>METHOD OF PAYMENT</b> (check all that apply)   |   |
| <input type="checkbox"/> Check  | <input type="checkbox"/> Credit Card  |
| <input type="checkbox"/> Money Order  | <input type="checkbox"/> None   |
| <input type="checkbox"/> Other (please identify): _____   |   |
| <input checked="" type="checkbox"/> Deposit Account   | Deposit Account Number: <u>03-1952</u> Deposit Account Name: <u>Morrison &amp; Foerster LLP</u> |
| For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)                    |   |
| <input checked="" type="checkbox"/> Charge fee(s) indicated below   | <input type="checkbox"/> Charge fee(s) indicated below, except for the filing fee               |
| <input checked="" type="checkbox"/> Charge any additional fee(s) or any underpayment of fee(s) under 37 CFR 1.16 and 1.17 | <input checked="" type="checkbox"/> Credit any overpayments                                     |

|   |                     |   |                    |                      |                                  |                      |                       |
|---|---------------------|---|--------------------|----------------------|----------------------------------|----------------------|-----------------------|
| <b>FEE CALCULATION</b>  |                     |   |                    |                      |                                  |                      |                       |
| <b>1. BASIC FILING, SEARCH, AND EXAMINATION FEES</b>  |                     |   |                    |                      |                                  |                      |                       |
|   | <b>FILING FEES</b>  |   | <b>SEARCH FEES</b> |                      | <b>EXAMINATION FEES</b>          |                      |                       |
|   |                     | <u>Small Entity</u>                                     |                    | <u>Small Entity</u>  |                                  | <u>Small Entity</u>  |                       |
| <b>Application Type</b>   | <b>Fee (\$)</b>     | <b>Fee (\$)</b>   | <b>Fee (\$)</b>    | <b>Fee (\$)</b>      | <b>Fee (\$)</b>                  | <b>Fee (\$)</b>      | <b>Fees Paid (\$)</b> |
| Utility   | 300                 | 150   | 500                | 250                  | 200                              | 100                  | 0.00                  |
| Design  | 200                 | 100   | 100                | 50                   | 130                              | 65                   |                       |
| Plant   | 200                 | 100   | 300                | 150                  | 160                              | 80                   |                       |
| Reissue   | 300                 | 150   | 500                | 250                  | 600                              | 300                  |                       |
| Provisional   | 200                 | 100   | 0                  | 0                    | 0                                | 0                    |                       |
| <b>2. EXCESS CLAIM FEES</b>   |                     |   |                    |                      |                                  |                      |                       |
|   |                     |   |                    |                      |                                  |                      | <u>Small Entity</u>   |
| <b>Fee Description</b>  |                     |   |                    |                      |                                  |                      | <b>Fee (\$)</b>       |
| Each claim over 20 or, for Reissues, each claim over 20 and more than in the original patent  |                     |   |                    |                      |                                  |                      | 50                    |
| Each independent claim over 3 or, for Reissues, each independent claim more than in the original patent   |                     |   |                    |                      |                                  |                      | 200                   |
| Multiple dependent claims   |                     |   |                    |                      |                                  |                      | 360                   |
|   |                     |   |                    |                      |                                  |                      | 180                   |
| <b>Total Claims</b>   |                     | <b>Extra Claims</b>                                     | <b>Fee (\$)</b>    | <b>Fee Paid (\$)</b> | <b>Multiple Dependent Claims</b> |                      |                       |
| _____ - 20 = _____  |                     | x   | _____              | =                    | <b>Fee (\$)</b>                  | <b>Fee Paid (\$)</b> |                       |
|   |                     |   |                    |                      |                                  | 0.00                 |                       |
| <b>Indep. Claims</b>  |                     | <b>Extra Claims</b>                                     | <b>Fee (\$)</b>    | <b>Fee Paid (\$)</b> |                                  |                      |                       |
| _____ - 3 = _____   |                     | x   | _____              | =                    |                                  |                      |                       |
|   |                     |   |                    |                      |                                  |                      | 0.00                  |
| <b>3. APPLICATION SIZE FEE</b>  |                     |   |                    |                      |                                  |                      |                       |
| If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s). |                     |   |                    |                      |                                  |                      |                       |
| <b>Total Sheets</b>   | <b>Extra Sheets</b> | <b>Number of each additional 50 or fraction thereof</b> |                    | <b>Fee (\$)</b>      | <b>Fee Paid (\$)</b>             |                      |                       |
| _____ - 100 = _____   | /50                 | _____ (round up to a whole number) x                    |                    | _____                | =                                |                      | 0.00                  |
| <b>4. OTHER FEE(S)</b>  |                     |   |                    |                      |                                  |                      |                       |
|   |                     |   |                    |                      |                                  |                      | <b>Fees Paid (\$)</b> |
| Non-English Specification, \$130 fee (no small entity discount)   |                     |   |                    |                      |                                  |                      | 0.00                  |
| Other: 1806 Submission of an Information Disclosure Statement   |                     |   |                    |                      |                                  |                      | 180.00                |

|                     |                        |                                   |                |
|---------------------|------------------------|-----------------------------------|----------------|
| <b>SUBMITTED BY</b> |                        |                                   |                |
| Signature           | <u>Michael R. Ward</u> | Registration No. (Attorney/Agent) | 38,651         |
| Name (Print/Type)   | Michael R. Ward        | Telephone                         | (415) 268-6237 |
|                     |                        | Date                              | <u>6/9/06</u>  |

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as Express Mail, Airbill No. EV 809052024 US, in an envelope addressed to: MS AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date shown below.

Dated: June 9, 2006

Signature: Valerie Cohen

(Valerie Cohen)

Patent

Docket No. 416272003700

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Re Patent Application of:  
Marc K. HELLERSTEIN

Serial No.: 10/664,513

Filing Date: September 16, 2003

For: BIOCHEMICAL METHODS FOR  
MEASURING METABOLIC FITNESS  
OF TISSUES OR WHOLE ORGANISMS

Examiner: P. C. Martin

Group Art Unit: 1655

**SUPPLEMENTAL INFORMATION DISCLOSURE  
STATEMENT UNDER 37 C.F.R. § 1.97 & 1.98**

MS AF  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

06/13/2006 WASFAW1 00000038 031952 10664513  
01 FC:1806 180.00 DA

Dear Sir:

Pursuant to 37 C.F.R. §1.97 and § 1.98, Applicant submits for consideration in the above-identified application the documents listed on the attached Form PTO/SB/08a/b. Copies of the non-patent literature documents are submitted herewith, except as noted below. The Examiner is requested to make these documents of record.

Non-patent literature Documents numbered 2, 6, 7, and 8, on the attached Form PTO/SB/08a/b were cited in a Supplementary Partial European Search Report mailed on March 9, 2006, directed to related European application no. 03713429.3, filed February 12, 2003 and have not been previously cited, accordingly copies are submitted herewith. Documents numbered 3, 4, and 5 on the attached Form PTO/SB/08a/b were also cited in the Supplementary Search Report, but were previously cited in an information disclosure statement submitted January 27, 2004, for the current application, and so, copies of the documents are not submitted herewith. A copy of the

sf-2134002

Filed September 16, 2003

Supplemental Information Disclosure Statement

Supplementary Search Report is submitted herewith. Since document numbered 7 on the attached Form PTO/SB/08a/b contains an English summary, and the Supplementary Search Report in which it is cited is in English, the requirement for a concise explanation of relevance for non-English language information should be fulfilled.

The documents listed on the attached Form PTO/SB/08a/b were cited in a Supplementary Partial European Search Report mailed on March 9, 2006, directed to a counterpart international or foreign application and have not been previously cited except as noted above. A certification under 37 C.F.R. § 1.97(e)(1) follows:

I hereby certify that items 1, 2, 6, 7, and 8, on the attached Form PTO/SB/08a/b were first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement.

This Supplemental Information Disclosure Statement is submitted:

- ☐ With the application; accordingly, no fee or separate requirements are required.
- ☐ Before the mailing of a first Office Action after the filing of a Request for Continued Examination under § 1.114. However, if applicable, a certification under 37 C.F.R. § 1.97 (e)(1) has been provided.
- ☐ Within three months of the application filing date or before mailing of a first Office Action on the merits; accordingly, no fee or separate requirements are required. However, if applicable, a certification under 37 C.F.R. § 1.97 (e)(1) has been provided.
- ☐ After receipt of a first Office Action on the merits but before mailing of a final Office Action or Notice of Allowance.
  - ☐ A fee is required. A check in the amount of \_\_\_ is enclosed.
  - ☐ A fee is required. Accordingly, a Fee Transmittal form (PTO/SB/17) is attached to this submission in duplicate.
  - ☐ A Certification under 37 C.F.R. § 1.97(e) is provided above; accordingly, no fee is believed to be due.

Filed September 16, 2003

Supplemental Information Disclosure Statement

☒ **After mailing of a final Office Action or Notice of Allowance, but before payment of the issue fee.**

☐ A Certification under 37 C.F.R. § 1.97(e) is provided above and a check in the amount of \_\_\_ is enclosed.

☒ **A Certification under 37 C.F.R. § 1.97(e) is provided above and a Fee Transmittal form (PTO/SB/17 is attached to this submission in duplicate.)**

Applicant would appreciate the Examiner initialing and returning the Form PTO/SB/08a/b, indicating that the information has been considered and made of record herein.

The information contained in this Supplemental Information Disclosure Statement under 37 C.F.R. § 1.97 and § 1.98 is not to be construed as a representation that: (i) a complete search has been made; (ii) additional information material to the examination of this application does not exist; (iii) the information, protocols, results and the like reported by third parties are accurate or enabling; or (iv) the above information constitutes prior art to the subject invention.

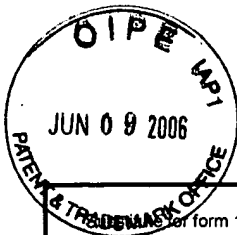
In the unlikely event that the transmittal form is separated from this document and the Patent and Trademark Office determines that an extension and/or other relief (such as payment of a fee under 37 C.F.R. § 1.17 (p)) is required, Applicant petitions for any required relief including extensions of time and authorize the Commissioner to charge the cost of such petition and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing docket no. **416272003700**.

Dated: June 9, 2006

Respectfully submitted,

By Michael R. Ward  
Michael R. Ward  
Registration No.: 38,651

MORRISON & FOERSTER LLP  
425 Market Street  
San Francisco, California 94105-2482  
Telephone: (415) 268-6237  
Facsimile: (415) 268-7522



ALTERNATIVE TO PTO/SB/08a/b (07-05)

|   |   |    |   |                          |                     |
|---|---|----|---|--------------------------|---------------------|
| <b>INFORMATION DISCLOSURE<br/>STATEMENT BY APPLICANT</b><br><br>(Use as many sheets as necessary) |   |    |   | <b>Complete if Known</b> |                     |
|   |   |    |   | Application Number       | 10/664,513          |
|   |   |    |   | Filing Date              | September 16, 2003  |
|   |   |    |   | First Named Inventor     | Marc K. HELLERSTEIN |
|   |   |    |   | Art Unit                 | 1655                |
|   |   |    |   | Examiner Name            | P. C. Martin        |
| Sheet   | 1 | of | 2 | Attorney Docket Number   | 416272003700        |

| U.S. PATENT DOCUMENTS |                       |   |                                |  |   |
|-----------------------|-----------------------|---|--------------------------------|--|---|
| Examiner Initials*    | Cite No. <sup>1</sup> | Document Number<br>Number-Kind Code <sup>2</sup> (if known) | Publication Date<br>MM-DD-YYYY | Name of Patentee or<br>Applicant of Cited Document | Pages, Columns, Lines, Where<br>Relevant Passages or Relevant<br>Figures Appear |
|                       | 1.                    | US-6,329,208  | 12-11-2001                     | Jones et al.                                       |   |

| FOREIGN PATENT DOCUMENTS |                       |  |                                |  |   |                |
|--------------------------|-----------------------|--|--------------------------------|--|---|----------------|
| Examiner Initials*       | Cite No. <sup>1</sup> | Foreign Patent Document<br>Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known) | Publication Date<br>MM-DD-YYYY | Name of Patentee or<br>Applicant of Cited Document | Pages, Columns, Lines,<br>Where Relevant Passages<br>or Relevant Figures Appear | T <sup>6</sup> |
|                          |                       |  |                                |  |   |                |

\*EXAMINER: Initial if information considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

| NON PATENT LITERATURE DOCUMENTS |                       |   |  |  |                |
|---------------------------------|-----------------------|---|--|--|----------------|
| Examiner Initials*              | Cite No. <sup>1</sup> | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.   |  |  | T <sup>2</sup> |
|                                 | 2.                    | GUO, Z.K. et al., (2000) "De novo lipogenesis in adipose tissue of lean and obese women: application of deuterated water and isotope ratio mass spectrometry," International Journal of Obesity, 24: 932-937  |  |  |                |
|                                 | 3.                    | HELLERSTEIN, Marc K. et al. (1986) "Glycoconjugates as Noninvasive Probes of Intrahepatic Metabolism: Pathways of Glucose Entry into Compartmentalized Hepatic UDP-glucose Pools during Glycogen Accumulation." Proceedings of the National Academy of Sciences of the United States of America 83, Issue 18: 7044-7048 |  |  |                |
|                                 | 4.                    | HELLERSTEIN, Marc K. et al. (1997) "Measurement of Hepatic Ra UDP-glucose in Vivo in Rats: Relation to Glycogen Deposition and Labeling Patterns" Am. J. Physiol. 272: E155-E162  |  |  |                |
|                                 | 5.                    | HELLERSTEIN, Marc K. et al. (1999) "Mass Isotopomer Distribution Analysis at Eight Years: Theoretical, Analytic, and Experimental Considerations. Am. J. Physiol. 276: E1146-E1170  |  |  |                |
|                                 | 6.                    | HELLERSTEIN, Marc K. (2004) "New stable isotope-mass spectrometric techniques for measuring fluxes through intact metabolic pathways in mammalian systems: introduction of moving pictures into functional genomics and biochemical phenotyping," Metabolic Engineering, 6: 85-100                                      |  |  |                |
|                                 | 7.                    | MORSCHES, Bernhard (1976) "Tierexperimentelle Untersuchungen uber die Beziehungen zwischen der Hydroxyprolinausscheidung im Urin und den Hydroxyprolinfraktionen im Serum." Der Hautarzt. 27:   |  |  |                |

|                    |  |                 |  |
|--------------------|--|-----------------|--|
| Examiner Signature |  | Date Considered |  |
|--------------------|--|-----------------|--|

sf-2133981



ALTERNATIVE TO PTO/SB/08a/b (07-05)

|   |   |    |   |                          |                     |
|---|---|----|---|--------------------------|---------------------|
| <b>INFORMATION DISCLOSURE<br/>STATEMENT BY APPLICANT</b><br><br>(Use as many sheets as necessary) |   |    |   | <b>Complete if Known</b> |                     |
|   |   |    |   | Application Number       | 10/664,513          |
|   |   |    |   | Filing Date              | September 16, 2003  |
|   |   |    |   | First Named Inventor     | Marc K. HELLERSTEIN |
|   |   |    |   | Art Unit                 | 1655                |
|   |   |    |   | Examiner Name            | P. C. Martin        |
| Sheet   | 2 | of | 2 | Attorney Docket Number   | 416272003700        |

|  |    |   |  |
|--|----|---|--|
|  |    | 234-242   |  |
|  | 8. | RAVICHANDRAN, L.V. et al., (June 1991) "In vivo labeling studies on the biosynthesis and degradation of collagen in experimental myocardial infarction," Biochemistry Journal, 24(3): 405-414 |  |
|  | 9. | Supplementary Partial European Search Report mailed March 9, 2006, for European patent application no. EP 03713429.3 , filed February 12, 2003, 6 pages                                       |  |

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>Applicant is to place a check mark here if English language Translation is attached.

|                       |  |                    |  |
|-----------------------|--|--------------------|--|
| Examiner<br>Signature |  | Date<br>Considered |  |
|-----------------------|--|--------------------|--|

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